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NATIONAL SKILLS COMPETITION

Competitions Sub-Committee

INFORMATION TECHNOLOGY

Introduction

The Information Technology section of the Skills Jamaica competition consists of three areas:

- Office Software Applications
- IT PC and Network Support
- Graphic Communication Design

Each applicant is expected to do the following:

- Select the particular task/s that he/she is interested in.
- Prepare suitable display for the day of the competition in the particular areas including photographs of processes if possible.
- Be prepared to complete test project given by the judge/expert.
- Read through the Competition and Quality Assurance Standards document carefully before starting project.

NATIONAL SKILLS COMPETITION
Competitions Sub-Committee
GRAPHIC COMMUNICATION DESIGN
(GCD#1)

The National Skills Competitions Sub-Committee has adopted the following minimum requirements for applicants' entry in the National Skills Competition.

The effective date will be that date on which this document is issued, and is subject to change by the National Skills Competition Steering Committee.

1. Name and description of trade

1.1 The name of the trade is:

Graphic Communication Design

1.2 The trade covers every form of graphic interpretation, including 2D.

2D design may include all kinds of printed matter, non web-connected web pages and basic animation for the internet (see section 9).

1.3 The trade involves any graphic communication design utilizing skills and techniques applicable to all phases of graphic communication design: conception/idea, design, digital preparation of images, typography, auxiliary artwork, layout and final art, final processing and output and presentation of the final design.

1.4 The competition shall be carried out on a PC by means of relevant software.

2. Scope of the Competitions

2.1 The test project consists of only practical work and shall not include any theoretical questions.

2.2 The theoretical knowledge is limited to that necessary to carry out the practical work.

3. Working Process

3.1 Briefing

- All projects shall begin with a briefing each day, prior to the start of the competition time.
- During the briefing the projects are to be read and understood before the working time is started.
- All competitors and experts shall be present at the briefing session.
- Any general questions, doubts or confusions regarding the project should be asked during the briefing.
- Any general questions, doubts or confusions must not be discussed with an expert during the briefing.

3.2 Idea and concept

Ideas and concepts may be developed on the computer or by means of thumbnails or rough sketches according to the competitors' own preference. Neither sketches nor any other form of preliminary produced material shall be submitted for evaluation or marking.

3.3 Layout

The design shall be electronically developed using specific software programs of the individual competitor's choice.

3.4 Final design

The final result of the design and layout process shall be presented for marking and evaluation within the allotted time.

3.5 Presentation and storing

- When the project is completed, the competitors shall print the results and mount it on boards for evaluation and exhibition purposes as stated in the written project description.
- The final and preliminary files are also to be saved onto the desktop of the PC in a suitably named folder according to instructions in the given project papers.

- The final and preliminary files are to be stored on a CD by the competitor, according to instructions in the given project papers.

Schedule of Assessment

Day one and Two

AM - Graphic Design

PM - Graphic Design

4. Test Project Marking

4.1 The maximum number of points for the whole competition is 100.

- Each subject that is to be evaluated in each project (ie. originality, typography, final design etc.) is given a certain number of points, adding up to 100.
- In the case of subjective marking, the number of points for each part of the project are awarded according to the scale as stated.
- Subjective marking is then calculated using a formula to arrive at the exact final mark as a percentage for that section.
- In case of objective evaluation the whole number of points for each part of the project is either given or not.

4.2 Each project shall be marked on completion of each day's competition.

4.3 Point allocation should be rated at 20% objective and 80% subjective breakdown. The marking should consider the following criteria and weighted with the approximate percentage in brackets.

Section	Item	Maximum Points
A	Concept/idea/originality	30
B	Final design/Typography	40
C	Computer Usage/Software Knowledge	5
D	Knowledge of the printing process	10
E	File Format	5
F	Presentation	10

4.4 All subjective marking should be carried out along the following set criteria

Marks:

Perfect	=	10 points
Very good	=	9 points
Good	=	8 points
Rather good	=	7points
Sufficient	=	6 points
Medium	=	5 points
Weak	=	4 points
Insufficient	=	3 points
Very bad	=	2 points
Zero	=	1 point

Points will also be awarded for creativity, innovation, speed etc. (This will be developed by the judges depending on the nature of the test project).

14. Competition Procedure

- 14.1 Modules will be completed on each day for all competitors so that the progressive marking can take place, and for results to be made available each day.
- 14.2 Competitors will have time at their disposal to familiarize themselves with material and processes. Where processes are particularly difficult, assigned personnel will demonstrate the process and the competitors will be given the opportunity to practice.
- 14.3 The competitors will be given all competition documents including the marking criteria prior to the commencement of the competition so that they may study the requirements
- 14.4 Prior to the start of the competition, each competitor will receive a detailed timetable reflecting the timing for completion of modules.

15. Judging procedural requirements

15.1 The experts that attend the completion will be divided into marking groups to deal with each section of the marking criteria.

15.2 Every completed module will be marked the same day on which it was completed.

16. General safety requirements

16.1 All competitors must use ergonomic equipment when:

16.1.1 seated and working at their workstations

16.1.2 reading any relevant documentation

16.2 Competitors must keep their workspace clear of obstacles and the floor space clean of materials and equipments – any items likely to cause the competitor to trip, slip or fall.

16.3 Failure by the competitor to comply with safety directions or instructions may incur a reprimanding from the experts group.

16.4

5. Glossary

- Prior to the competition both experts and participants should become familiar with the terms in the following glossary.

The following definitions of terms will be considered when experts are assessing the participants' projects.

- Project: The design task that the competitors shall perform
- Conception: The creation of the idea of the design and visual appearance of the product
- Concept: The idea of the design
- Originality: The ability to create an idea and a design that differ from the usual
- Final art: The final files containing the developed concept, ready for printout, publication or uploading
- Layout: The development of the idea on the computer or on paper
- File format: A specified type of digital computer produced document

- Final design: The final printed result of the developed concept/idea and the layout process on the computer
- Presentation: The mounting of prints for exhibition and evaluation/marketing purposes.

NATIONAL SKILLS COMPETITION
Competitions Sub-Committee
IT PC AND NETWORK SUPPORT
(ITNS#2)

The National Skills Competitions Sub-Committee has adopted the following minimum requirements for applicants' entry in the National Skills Competition.

The effective date will be that date on which this document is issued, and is subject to change by the National Skills Competition Steering Committee.

1 Name and description of trade

1.1 The name of the trade is:

IT PC and Network Support

1.2 Note: Here "PC" means "Personal Computer", not only the more common _IBM compatible clone_ meaning.

1.3 **This technical description must be known to every candidate.**

1.4 Words implying masculine gender only shall include the feminine gender

2 Scope of the Competition

2.1 The test project consists only of practical work

2.2 The theoretical knowledge is limited to that necessary to carry out the project work

2.3 Candidates should be capable of performing tasks to at least a level of:

➤ Microsoft (MSCE), Cisco CCNA, A+, Net Plus

2.4 All Operating Systems used in the competition are to be English language versions.

3 Practical Work may include some or all of the following.

3.1 Assemble a personal computer from its main components.

3.2 Install add-on modules and peripherals for a personal computer. These may include generally available devices that utilize a range of IO methods.

3.3 Perform hardware upgrades to computer equipment

3.4 Identify and rectify hardware problems.

3.5 Identify and rectify software problems.

3.6 Conduct routine procedures on computer equipment, such as:

- Plan and implement backup procedures.
- Install and configure virus detection and removal.
- Design and carry out appropriate system tests for checking system efficiency, reliability and data integrity.

3.7 Install and configure operating systems as required.

3.8 Install software packages to run locally on a personal computer.

3.9 Install software packages to run remotely on a personal computer.

3.10 Install and configure a network, including peer to peer and client/server.

- Install and configure a network interface card.
- Connect correct cabling for a LAN.
- Install and configure networking operating system (NOS).
- Install and configure appropriate network protocols and client part of NOS.

- Install and configure network specific devices and services

3.11 Administer a LAN (including advanced user / software and hardware configurations)

3.12 Troubleshoot a network including monitoring network performance.

3.13 Use software diagnostic tools.

3.14 Network design and implementation.

3.15 Simulations and Scenarios

It is anticipated that competition scenarios may include the assembly of various pieces of hardware to create working pieces of equipment and the installation of software onto this equipment.

Schedule of Assessment

	Day 1	Day 2
AM	network	Network
PM	network	

4 Test Project Marking

6.1 The competitors work may not be altered in any way to facilitate marking unless included in the marking scheme.

6.2 **Marks:**

Perfect	=	10 points
Very good	=	9 points
Good	=	8 points
Rather good	=	7 points

Sufficient	=	6 points
Medium	=	5 points
Weak	=	4 points
Insufficient	=	3 points
Very bad	=	2 points
Zero	=	1 point

6.3 Rating

Section	Item	Maximum Points
A	Fault finding, diagnostics and troubleshooting	25
B	Installation, configuration, upgrading and maintenance of software	20
C	Installation, configuration, upgrading and maintenance of hardware	20
D	Installation, configuration, upgrading and maintenance of the network	35

Points will also be awarded for creativity, innovation, speed etc. (This will be developed by the judges depending on the nature of the test project).

7. Competition Procedure

7.1 .Modules will be completed on each day for all competitors so that the progressive marking can take place, and for results to be made available each day.

7.2 Competitors will have time at their disposal to familiarize themselves with material and processes. Where processes are particularly difficult, assigned personnel will demonstrate the process and the competitors will be given the opportunity to practice.

7.3 The competitors will be given all competition documents including the marking criteria prior to the commencement of the competition so that they may study the requirements

7.4 Prior to the start of the competition, each competitor will receive a detailed timetable reflecting the timing for completion of modules.

Judging procedural requirements

The experts that attend the completion will be divided into marking groups to deal with each section of the marking criteria.

Every completed module will be marked the same day on which it was completed.

General safety requirements

All competitors must use ergonomic equipment when:

seated and working at their workstations

reading any relevant documentation

Competitors must keep their workspace clear of obstacles and the floor space clean of materials and equipments – any items likely to cause the competitor to trip, slip or fall.

Failure by the competitor to comply with safety directions or instructions may incur a reprimanding from the experts group.

NATIONAL SKILLS COMPETITION
Competitions Sub-Committee
Office Software application
(OSA#3)

The National Skills Competitions Sub-Committee has adopted the following minimum requirements for applicants' entry in the National Skills Competition.

The effective date will be that date on which this document is issued, and is subject to change by the National Skills Competition Steering Committee.

- **Area A: Business Solutions Using MS Office (Word and Excel)**
- **Area B: Web Page Design**
- **Area C: Application Development**

Area A

1. Name and description of area

1.1 The name of the area is:

Information Technology – Office software applications

1.2 Format – Live Demonstration of Competence

1.1.1 No teamwork required. Applicants enter as individual contestants

1.1.2 Individuals will be assigned tasks that must be executed within the specified time frame.

1.3 This competition is designed to test specialist users of software applications. The trade involves the ability to:

1.1.3 Undertake document processing

1.1.4 Create and use spreadsheets

1.3.4 Create and edit application macros and make use of software customization facilities (the competitor should be able to choose the method of creation/editing – no question should be of the level that could only be resolved using programming tools e.g. VBA)

NB: This technical description must be known to every candidate.

2. Assessment

2.1 Schedule of Assessment

	Day 1	Day 2
AM	Office Software Applications	Office Software Applications
PM	Office Software Applications	

2.2 Sections Weighting

The sections are weighed as follows:

Spreadsheet 40%

Document Processing 40%

3. Competencies to be demonstrated

Office Software Applications (**Word and Excel**)

Design, create and manipulate business documents to a given standard to meet a given requirement.

Including:

3.1 Document Processing (MS Word)

3.1.1 Create informative and well presented reports comprising text and multi-media;

- 3.1.2 Merge data from spreadsheets into your documents.
- 3.1.3 Undertake mail merge operations;
- 3.1.4 Write and edit macros, templates and produce buttons to automate document-processing tasks;
- 3.1.5 Utilize forms for data input
- 3.1.6 The following could form part of the skills assessment:
 - Headers and footers
 - Use advanced features of document processing software to produce, format and edit documents, for example using tools such as indexes, tables of content, fields, track changes etc.

3.2 Spreadsheets (MS Excel)

- 3.2.1 Design and create a spreadsheet of up to 40 rows and 10 columns to solve a problem relating to the scenario provided.
- 3.2.2 Undertake “what if” style reporting from the spreadsheet.
- 3.2.3 Produce the specified reports.
- 3.2.4 Undertake the following tasks:
 - Enter data
 - Edit data
 - Append data
 - Produce graphs
 - Print reports.
 - Write macros and provide buttons to automate tasks
 - Use conditional statements
- 3.2.5 The following could form part of the skills assessment:
 - Entry of numbers, labels and formulas
 - Different formats for number entry and printout
 - Row and column arithmetic
 - Modify the structure of a given spreadsheet
 - Hide data columns or ranges
 - Print numerical and graphical results

- Use functions to obtain mathematical solutions
- Manipulate multiple spreadsheets, for example linking and embedding data
- Naming of print ranges

4. Materials

4.1 Each competitor will require access to:

4.1.1 Writing paper

4.1.2 Pens, pencils, ruler, stapler, eraser and pencil sharpener

4.1.3 Two personal competition envelopes (These would be used for the collection of competitors work)

(End of Area A)

Area B

5. Name and description of area

5.1 The name of the area is:

Information technology – Web Page Design

5.2 Format – Live Demonstration of Competence

5.2.1 No teamwork required. Applicants enter as individual contestants

5.2.2 Individuals will be assigned tasks that must be executed within the specified time frame.

5.2.3 The applicants will be provided with a set of graphics that they would require to use effectively in the web pages they design.

5.3 This competition is designed to test specialist users of software applications. The trade involves the ability to:

5.3.1 Create a web site using HTML

5.3.2 Incorporate simple graphics into the Web site

5.3.3 Conform to W3C standards

5.3.4 Use at least one scripting language to add interactivity

NB: This technical description must be known to every candidate.

6. Assessment

6.1 Schedule of Assessment

	Day 1
AM	Web Design
PM	Web Design

6.2 Sections Weighting

The sections are weighed as follows:

- 6.2.1 Demonstration of Knowledge of the HTML Language 40%
- 6.2.2 Conformance with W3C Standards 30%
- 6.2.3 Effective Use of Graphics 10%
- 6.2.4 Scripting Component – 20%

7. Competencies to be demonstrated

7.1 Use web design software to create and publish a web site containing information from a variety of sources.

7.2 The following could form part of the skills assessment:

- Design and create a web site to publicize the products/services as defined in the scenario provided.
- Create, edit and modify items such as text, tables, frames, forms and multi-media
- Integrate a database
- Selecting and applying appropriate formats to ensure efficient web site usage
- Applying animations
- Create and add navigation buttons

- Create, apply and edit templates
- Create and modify JavaScript or other suitable scripting language
- Minimize load time by optimizing graphic sizes

Note: Students are required to use HTML programming (without the use of an Authoring tool such as FrontPage)

8 Materials

8.1 Each competitor will require access to:

- Writing paper
- Pens, pencils, ruler, stapler, eraser and pencil sharpener
- Two personal competition envelopes (These would be used for the collection of competitors work)

(End of Area B)

Area C

9. Name and description of area

9.1 The name of the area is:

Information technology – Application Development

9.2 Format – Teams of students are encouraged to design and implement computer-based solutions that are of benefit to Jamaica. Teams are free to choose their own project as long as the published guidelines are followed.

9.2.1 Teamwork is highly recommended

9.2.2 The ten top entries will be selected by evaluating reports submitted by the teams participating in the competition. These reports must conform to the outline specified in section. **Please Note that failure to conform to the report outline may result in your report being rejected.**

10. Report Specification

- 10.1 Text should be 12-pt and single-spaced, on single-sided 8½ by 11” page format, using 1” margins all around.
- 10.2 There should a Title page (1 page). It should include title of the project, team members, and school.
- 10.3 The Abstract should not be more than one page
- 10.4 The System Overview should be no more than three pages. This should include:
 - 10.4.1 A detailed description of the system.
 - 10.4.2 A description of what the system’s hardware and software is meant to accomplish.
 - 10.4.3 A summary of the design methodology used and why it was selected.
 - 10.4.4 Feasibility summary indicating how the project is valuable and to whom.
 - 10.4.5 Explanation of what is unique and innovative about your project.
 - 10.4.6 Any novel ideas that the design includes.
- 10.5 System design documents should include:
 - 10.5.1 High-level conceptual diagram
 - 10.5.2 Diagrams of the main system modules
 - 10.5.3 Diagram indicating database/design
- 10.6 The References should be no more than one page.

11. Submission

- 11.1 Reports must be submitted to the following address by August 4, 2003.
Vocational Training Development Institute
Gordon Town Rd.

P.O. Box 179, Kingston 6.

11.2 From the reports, the best ten will be selected.

11.3 These applicants will be expected to complete software development by the day of the competition.

12. Presentation

12.1 Although developing an innovative product is noteworthy, this is usually not enough in today's world. The product must be sold. Consequently, presentation is a significant component of this competition. The top ten teams will be required to present their projects in front of a judging panel, which will weigh the project report, the demonstration of the actual operational prototype, and the team's presentation in determining the winning teams. Presentations must be of a high standard.

(End of Area C)

Sections 13 to 16 only applies to Areas A and B above.

13. Workshop installations

13.1 Each competitor will be provided with a working area with a desk and specified equipments.

13.2 The following machines and equipment will be made available to each competitor:

- Pentium IV or current equivalent processor
- 256 MB of RAM (Memory) or current equivalent
- Standard computer hard drive (greater than 10GB)
- Color monitor capable of 1024 x 768 dpi (minimum size = 15in)
- Removable media for competitor storage (eg. Floppy disk drive or Zip disk)
- Sound card and speakers with headphones
- Color printer

- Color scanner capable of 1200 dpi
- 13.3 Each competitor will bring with them the necessary hand-tools of the area required to complete the project.
- 13.4 The following equipment will be made available to experts:
 - 13.4.1 A separate enclosed area for confidential marking
 - 13.4.2 A minimum of two (2) computer systems as detailed below:
 - Pentium IV or equivalent processor
 - 256 MB of RAM (Memory) or equivalent
 - Standard computer hard drive (greater than 10GB)
 - Colour monitor capable of 1024 x 768 dpi (minimum size = 15in)
 - Removable media for storage (eg. Floppy disks drive or Zip disk)
 - Sound card and speakers with headphones
 - Colour printer
 - Colour scanner capable of 1200 dpi
 - System compatible mouse and relevant software
 - Electronic device for reading competitor instructions electronically
 - Network capabilities of 100MBPS
 - 13.4.3 Stationery – pens, pencils, cello tape, stapler, paper clips, etc.
- 13.5 The following equipment will be required for general use within the competition:
 - 13.5.1 Large lockable cupboard for storage of files, personal computer equipment and other confidential and sensitive material
 - 13.5.2 Lockable cupboards for storage for competitors personal equipment not required in the competition
 - 13.5.3 High turnover networked Laser printer (minimum resolution of 600dpi)
 - 13.5.4 Projection system with large screen to enable PowerPoint presentations completed by competitors prior to the competition to be displayed to the public
 - 13.5.5 CD Rom burner or Zip drive.

13.6 Software

The software used by competitors will be a representative of widely accepted International software and may represent several software producers. One important aspect will be integration potential between the various types of software. This will require a careful check but software of the following kind will be required for each computer system:

Minimum Requirements:

- Secured OS and GUI (Preferably Windows that is capable of running the required software)
- Document Processing (Microsoft Word or equivalent)
- Web Page design (Microsoft Word, Internet Explorer, Netscape Composer, PhotoShop,
- Paint-Shop-Pro or equivalent, Animation Shop or equivalent)
- Personal relational database (Microsoft Access or equivalent)
- Spreadsheet (Microsoft Excel or equivalent)
- Web Browser (Internet Explorer, Netscape Navigator or equivalent. At least two browsers are required)
- Graphics (Coreldraw, Photoshop or equivalent)
- Presentation Software (Microsoft PowerPoint or equivalent)
- Necessary software to view competitor instructions electronically
- Necessary device drivers for all equipment provided

13.7 A secure network environment for:

Individual network storage of competitors work for each section

13.7.2 Secure area for experts marking of competitors work. Competitors work must be separated by folder usage but grouped for easy access expert to access work

13.7.3 A separate read-only area for storage of section data required by competitors

7.5 Support

The support required will be quite extensive and a full simulation of all equipment used for the competition **must be** tried out prior to presentation to the competitors. The simulation may require the installation of complex and sensitive equipment.

7.5.1 Competition Procedure

7.5.1.1 Modules will be completed on each day for all competitors so that the progressive marking can take place, and for results to be made available each day.

7.5.1.2 Competitors will have time at their disposal to familiarize themselves with material and processes. Where processes are particularly difficult, assigned personnel will demonstrate the process and the competitors will be given the opportunity to practice.

7.5.1.3 The competitors will be given all competition documents including the marking criteria prior to the commencement of the competition so that they may study the requirements

7.5.1.4 Prior to the start of the competition, each competitor will receive a detailed timetable reflecting the timing for completion of modules.

7.5.1.4.1 Judging procedural requirements

7.5.1.4.1.1 The experts that attend the completion will be divided into marking groups to deal with each section of the marking criteria.

7.5.1.4.1.2 Every completed module will be marked the same day on which it was completed.

7.5.1.4.1.2.1 **General safety requirements**

7.5.1.4.1.2.2 All competitors must use ergonomic equipment when:

- 16.1.1 seated and working at their workstations
- 16.1.2 reading any relevant documentation
- 16.5 Competitors must keep their workspace clear of obstacles and the floor space clean of materials and equipments – any items likely to cause the competitor to trip, slip or fall.
- 16.6 Failure by the competitor to comply with safety directions or instructions may incur a reprimanding from the experts group.